

introduction



The *S400* is a four axis, stand-alone, integrated servo controller / driver controlling position, velocity and torque. Control of DC brush type motors or voice coil actuators can be achieved via the on-board motor drive, or a wider variety of motors can be controlled using an external amplifier via the analog output interface.

The *S400* implements a mnemonic type command instruction set via a standard RS-232 serial communications interface. These commands can be executed directly or used to create command macros which are stored in the on-board NVRAM.

The *S400* interfaces to the real world via 4 PWM switching amplifiers, 4 channels of quadrature type encoder interface and 8 channels each of optoisolated digital inputs and outputs.

Model *S400* Four Axis Servo Motor Controller/Amplifier

features

- **Description** Stand-Alone, 4 Axis, Brush Type, Servo Motor Controller/Amplifier
- **Operating Modes** Position, Velocity, Torque and Electronic Gearing
- **Filter Algorithm** PID
- **Maximum Servo Loop Rate** 100 Microseconds per Enabled Axis
- **Trajectory Generator** Trapezoidal, Electronic Gearing
- **Servo Position Feedback** +5 V Quadrature Type Incremental Encoder with Index
- **Max. Encoder Count Rate** 1 or 2 Million Quadrature Counts per Second (axis conditional)
- **Encoder and Index Inputs** Single-Ended or Differential
- **Output** Power PWM, 3 Amps cont. and 6 Amps Peak at 48 VDC
- **PWM Frequency** Approximately 19.531 kHz
- **Position Range** ± 2,147,483, 648 Quadrature Counts
- **Velocity Range** 0 to 1,073,741,824 Resolution of 1 part in 65,536
- **Acceleration Range** 0 to 1,073,741,824 Resolution of 1 part in 65,536
- **General Purpose Digital I/O** 8 Optoisolated Inputs, 8 Optoisolated Outputs
- **Expansion I/O** Optional Expansion to 64 I/Os
- **Dedicated Digital Inputs** Limit +, Limit -, Home and Fault per Axis, all Optoisolated
- **Communication Interface** RS-232 Serial Interface, Adjustable Baud Rate, 8 data Bits, 1 Stop Bit, No Parity, XON/XOFF Handshake
- **Supply Voltage** +11 to +50 VDC
- **Motor Voltage** +12 to +48 VDC
- **Analog Inputs** 10 Channels with 10-bit Resolution, 6 are User Accessible, 0 to 5V
- **Analog Outputs** 4 Channels, 12 Bits, ± 10 Volts at 5 mA
- **Dimensions** 6.5" L. x 2.3" W. x 6.8" H. (not including mounting tabs)
- **Weight** Approximately 46 oz.
- **Enclosure** Rugged Powder Coated Aluminum Extrusion

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